NorGeoSpec 2012 Product Certificate

SINTEF

Certificate no.:	NGS-50024	Manufacturer :	Tensar International Ltd	Raw material:	PE
Date:	15.04.2016	Product:	RE540	Function:	Reinforcement
Valid until:	14.04.2018	Product Type:	GGR		

Quality Product Certification Reinforcement

Characteristic		Standard	Unit	Declared value	Max. tolerance	Certification value
Mass per unit area		EN ISO 9864	g/m²	455	± 45.5	**410-501**
Dimension		NorGeoSpec 2012				
Grid openings production width			-	59 (1.3m) 47 (1.0m)	± 0	**59 (1.3m)** **47 (1.0m)**
Grid apertures	MD		mm	218	± 32.7	**185-251**
	CMD		mm			
Mechanical tests						
Tensile strength	MD	EN ISO 10319	kN/m	64.5	- 0.00	**64.5**
	CMD	EN ISO 10319	KN/m	n/a		
Strain at nominal strength	MD	EN ISO 10319	%	9.0	± 1.8	**7.2-10.8**
	CMD	EN ISO 10319	%	n/a		
Strength at 2% extension	MD	EN ISO 10319	kN/m	15.00	- 0.00	**15.00**
	CMD	EN ISO 10319	kN/m	n/a	- 0.00	
Strength at 5% extension	MD	EN ISO 10319	kN/m	30.00	- 0.00	**30.00**
	CMD	EN ISO 10319	kN/m	n/a	- 0.00	
Strength at 10% extension	MD	EN ISO 10319	kN/m	-	-	**-**
	CMD	EN ISO 10319	kN/m	-	-	**-**
Durability (Declared value)						
Service life			years	☐ 25	☐ 50	☒ 100
Information about reduction factors are given on page 2 of this certificate.						

Issued by

Christian Recker, NorGeoSpec project manager

Approved by

Arnstein Watn, Head of the Technical committee

The products are regulary audited and tested to verify that the characteristics fulfil the NorGeoSpec requirements.
Approved by the NorGeoSpec Technical committee: 15.04.2016

NorGeoSpec certification body: SINTEF Building and Infrastructure · Høgskoleringen 7a · No-7465 Trondheim
SINTEF ist notified as a competent body related to directive 89/106/EEC by the Norwegian Royal Ministry of Trade and Industry: Notified body ID no 1071

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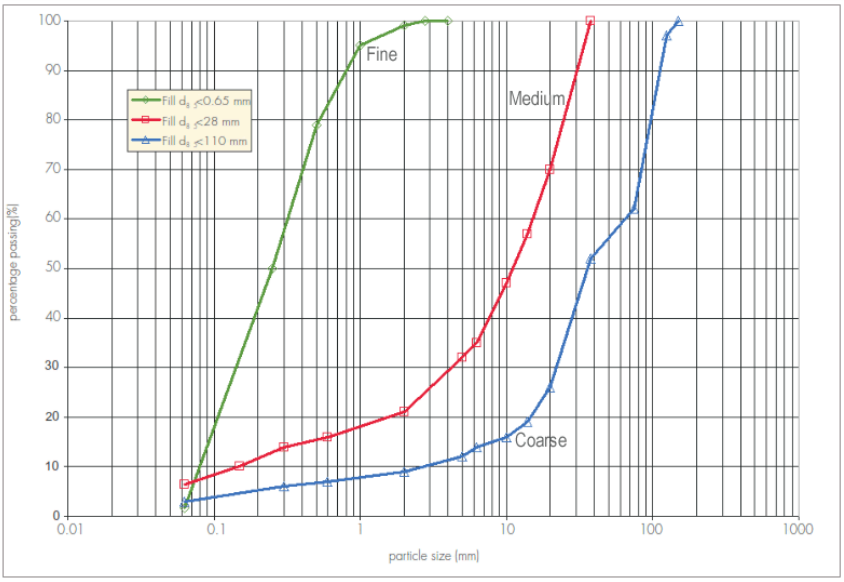
Declared values						
Reduction factor for creep rupture[1) 2)]	RF_{CR}	2.1	Remarks:	120 years, BBA Certificate 13/H201		
Reduction factor for enviromental effects	RF_{CH}					
Chemical		-	Remarks:	Application in natural soils at a pH-value between 4 and 9 and a soil temperature of <25°C		
Oxidation		1.0	Remarks:	ERA Report 2014-0725		
Hydrolysis			Remarks:			
Reduction factor for weathering	RF_{W}	-	Remarks:			
Or max. exposure time						
1 month		X				
2 weeks						
1 day						
Reduction factor for installation damage	$RF_{ID, fine}$	1.0	$RF_{ID, medium}$	1.07	$RF_{ID, coarse}$	1.36
Used test method	BBA Certificate 13/H201-Full scale installation test following the method from annex D of BS8006: 1995					

Compaction: Towed Dead Roller [72,000kg] – 12 passes. Min. compacted depth above Geogrid 150mm.

Particle size distribution of fills used in installation damage testing



[1)] producte range,
[2)] not required if used as base course layers
n.r. = not required
n/a = not applicable